

Occupant Protection 2005

OCCUPANT PROTECTION

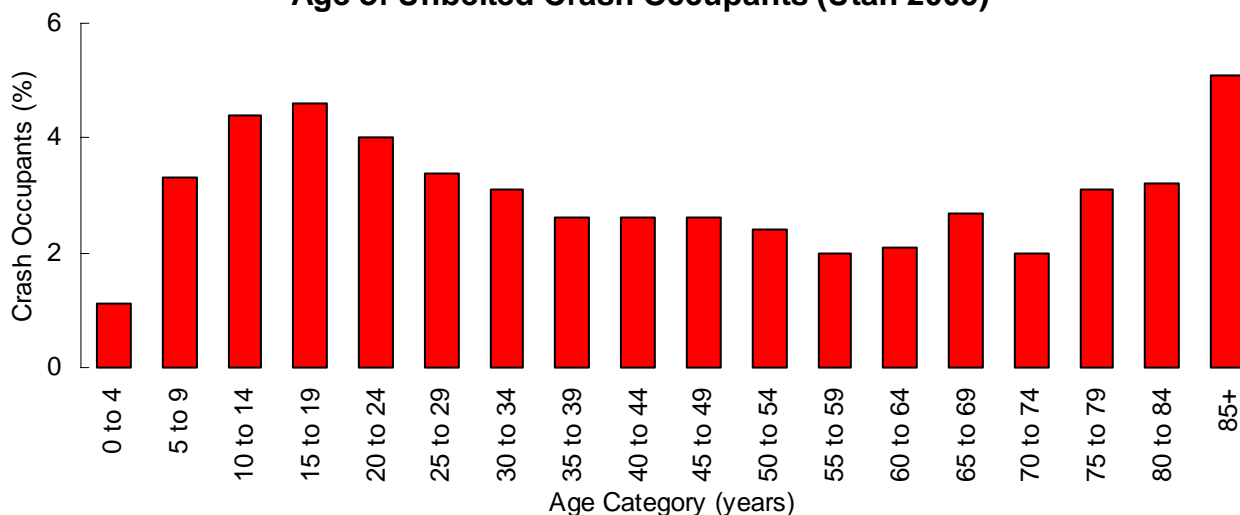


Failure to "buckle up" contributes to more fatalities than any other traffic-safety-related behavior.

Did you know that in 2005 . . .

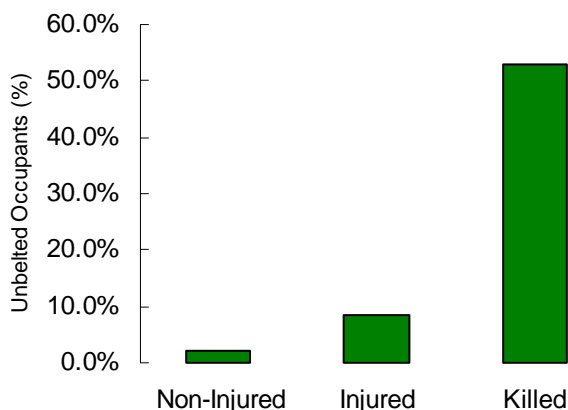
- Unbelted crash occupants were 33 times more likely to die in a crash than belted crash occupants.
- An unbelted crash occupant was killed in Utah every 3 days.

Age of Unbelted Crash Occupants (Utah 2005)



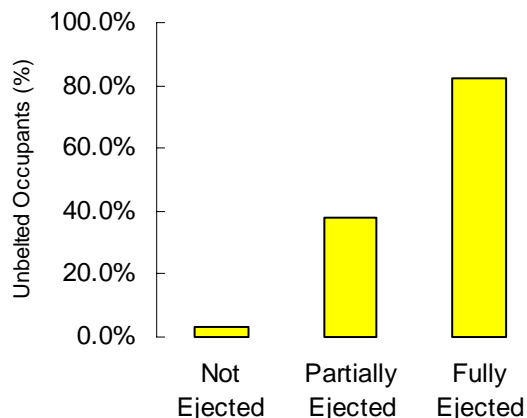
- The highest percentage of unbelted crash occupants were aged 85+ years (5.1%), followed closely by occupants aged 15 to 19 years (4.6%)

Injury Severity of Unbelted Occupants (Utah 2005)



- The above graph shows that 52.9% of crash occupants killed in a crash were unbelted.
- The majority of persons who survived a crash reported wearing a seatbelt.

Ejection of Unbelted Crash Occupants (Utah 2005)



- The above graph shows that 82.3% of crash occupants fully ejected from a motor vehicle were unbelted. Only 3.1% of crash occupants not ejected from a motor vehicle were unbelted.

OCCUPANT PROTECTION



**Percent of Children in Crashes Using Child Safety Seats
(Aged 0 to 8 years)**



- While 88.1% of 0 to 1 year olds were reported as being in a child safety seat at the time of the crash, 73.9% of 2 to 4 year olds, and 18.8% of 5 to 8 year olds were reported as being in a child safety seat.
- The decrease in child safety seat use for children aged 2 to 8 years is concerning. The National Highway Traffic Safety Administration recommends that older children ride in belt-positioning booster seats until they are approximately 80 pounds or 4'9" tall and can use an adult-size lap and shoulder belt system. The percentages of child safety seat use in the above graph indicate that children are often moved to adult-sized seatbelts prematurely.

Child Safety Seat Recommendations:

- Infants should be placed in a rear-facing safety seat until they are at least 20 pounds AND one year of age.
- NEVER place a rear-facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Children over one year of age weighing 20-40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are approximately 80 pounds or 4'9" tall and can use an adult-size lap and shoulder belt system.
- Avoid using secondhand child safety seats especially if it does not have the original instruction booklet, if it has been used in a crash, it does not have the manufacturer's date and model number on it, or if it is more than six years old.
- If your car has lap/shoulder combination belts, it could be critical to use a locking clip to properly secure your safety seat to the car. Consult the vehicle owner's manual.
- The safest place for any child aged 12 and under is in the back seat of the vehicle.

Seatbelt Recommendations:

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.
- Use belt-positioning booster seats for children who have outgrown their toddler safety seat (at about 4 years of age and 40 pounds). Booster seats help position an adult-size seatbelt for a safer fit on children.

Safety Restraint Laws (Effective July 1, 2000):

- Utah law requires all motor vehicle occupants to be wearing a seatbelt when traveling in a motor vehicle. This is a secondary enforcement law which means a person may be issued a citation and subject to a \$45 fine only when the police officer has stopped the vehicle for another reason.
- The law is primarily enforced for drivers and passengers under age 19 years.
 - ⇒ Children age 4 years and under must ride in an approved child safety seat; and
 - ⇒ Children aged 5 to 19 years must ride in an approved child safety seat or safety belt.
 This primary enforcement law means a person may be issued a citation and subject to a fine of not more than \$45 if a law enforcement officer notices children are not properly restrained.

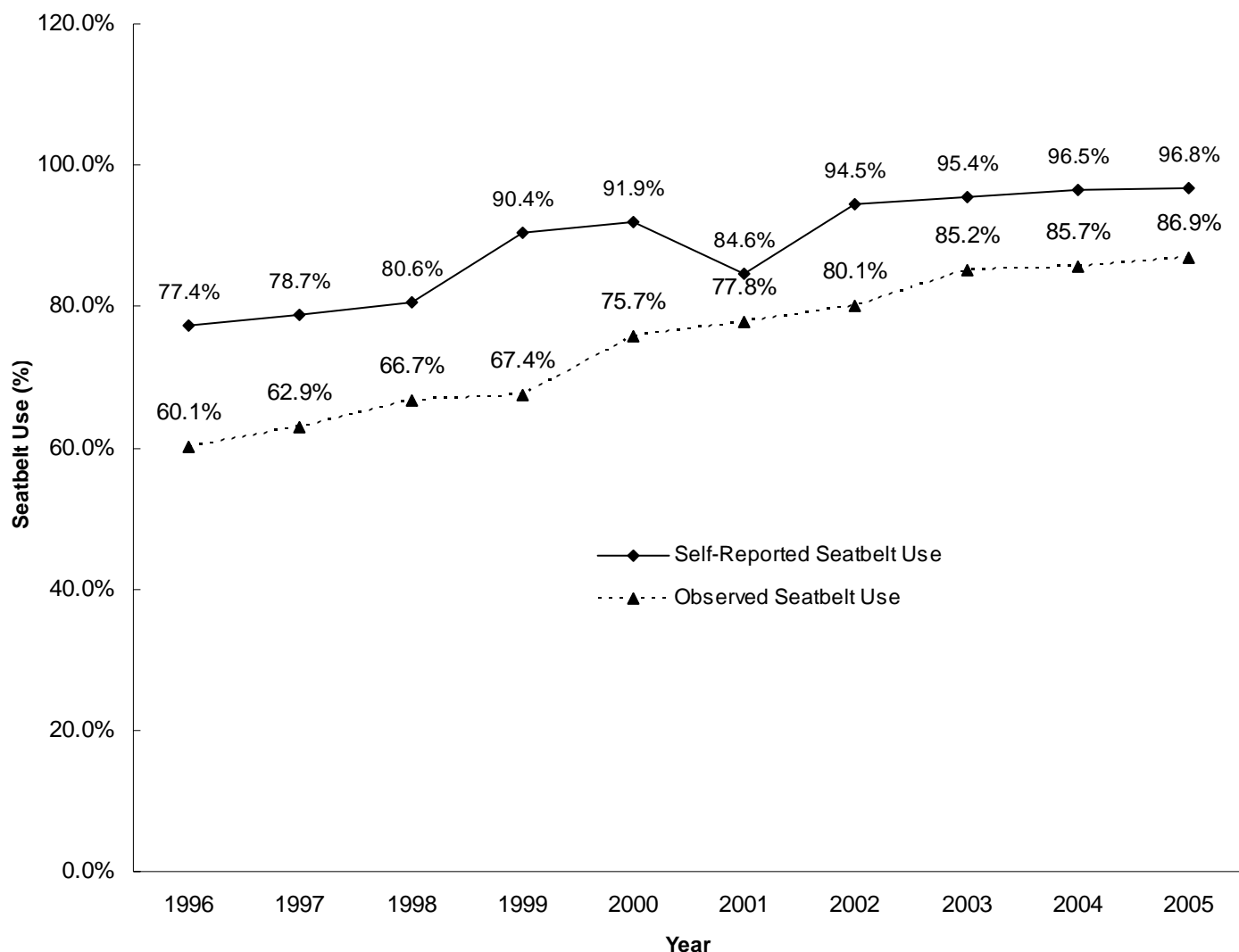
Section 2: Occupant Protection

Section 2: Occupant Protection 2005

Trends	
Occupant Protection 1996-2005.....	40
Counties	
Seatbelt Use of Persons Killed by County.....	41
Occupant Characteristics (Including Driver)	
Injury Severity.....	42
Ejection.....	43
Age of Crash Occupants	44
Gender of Crash Occupants.....	45
Occupant Placement	45
Air Bags.....	46
Children and Restraint Use	47

Trends

Seatbelt Use of Drivers and Front Seat Passengers In Crashes and Observational Studies (Utah 1996-2005)



- Historically, there have been differences between self-reported seatbelt use of people involved in crashes, and seatbelt use that is observed by researchers in observational studies.
- The difference between self-reported seatbelt use of people involved in crashes, and observed seatbelt use may be due to over-reporting by the people involved in crashes.
- The above graph compares the self-reported and observed percentage of seatbelt use by drivers and front-seat passengers.
- While there is some year-to-year variation, the ten-year trend shows an increase of seatbelt use by drivers and front-seat passengers in both crashes and observational studies.
- In 2005, the observational seatbelt use increased to 86.9% from 85.7% in 2004; an increase of 1.2 percentage points.
- The 2005 self-reported seatbelt use percentage of people involved in crashes was 96.8%; an increase of 0.3 percentage points from 2004.

Counties

Seatbelt Use of Persons Killed by County (Utah 2005)

Persons			
County	Seatbelt Use	Fatalities #	Usage %
Beaver	Belted	1	50.0%
	Unbelted	1	50.0%
Box Elder	Belted	9	47.4%
	Unbelted	10	52.6%
Cache	Belted	2	40.0%
	Unbelted	3	60.0%
Carbon	Belted	2	100.0%
	Unbelted	0	0.0%
Daggett	Belted	0	0.0%
	Unbelted	0	0.0%
Davis	Belted	3	42.9%
	Unbelted	4	57.1%
Duchesne	Belted	5	71.4%
	Unbelted	2	28.6%
Emery	Belted	2	50.0%
	Unbelted	2	50.0%
Garfield	Belted	4	80.0%
	Unbelted	1	20.0%
Grand	Belted	2	40.0%
	Unbelted	3	60.0%
Iron	Belted	3	37.5%
	Unbelted	5	62.5%
Juab	Belted	2	25.0%
	Unbelted	6	75.0%
Kane	Belted	0	0.0%
	Unbelted	0	0.0%
Millard	Belted	7	53.8%
	Unbelted	6	46.2%
Morgan	Belted	0	0.0%
	Unbelted	1	100.0%

Persons			
County	Seatbelt Use	Fatalities #	Usage %
Piute	Belted	0	0.0%
	Unbelted	0	0.0%
Rich	Belted	1	100.0%
	Unbelted	0	0.0%
Salt Lake	Belted	19	44.2%
	Unbelted	24	55.8%
San Juan	Belted	1	16.7%
	Unbelted	5	83.3%
Sanpete	Belted	0	0.0%
	Unbelted	1	100.0%
Sevier	Belted	2	33.3%
	Unbelted	4	66.7%
Summit	Belted	0	0.0%
	Unbelted	2	100.0%
Tooele	Belted	9	60.0%
	Unbelted	6	40.0%
Uintah	Belted	1	33.3%
	Unbelted	2	66.7%
Utah	Belted	9	64.3%
	Unbelted	5	35.7%
Wasatch	Belted	2	28.6%
	Unbelted	5	71.4%
Washington	Belted	2	22.2%
	Unbelted	7	77.8%
Wayne	Belted	1	100.0%
	Unbelted	0	0.0%
Weber	Belted	9	64.3%
	Unbelted	5	35.7%
Statewide	Belted	98	47.1%
	Unbelted	110	52.9%

- The above table shows the seatbelt use by county of persons killed in motor vehicle crashes.
- Seatbelt use is reported for occupants in a passenger car, light truck, van or SUV. Occupants are considered "belted" if they were coded as using a shoulder/lap belt, lap belt or a child safety seat at the scene of the crash.
- While seatbelt use is self-reported by the crash occupant in the majority of crashes, the officer determines seatbelt use in the event of a fatal or severe injury crash.

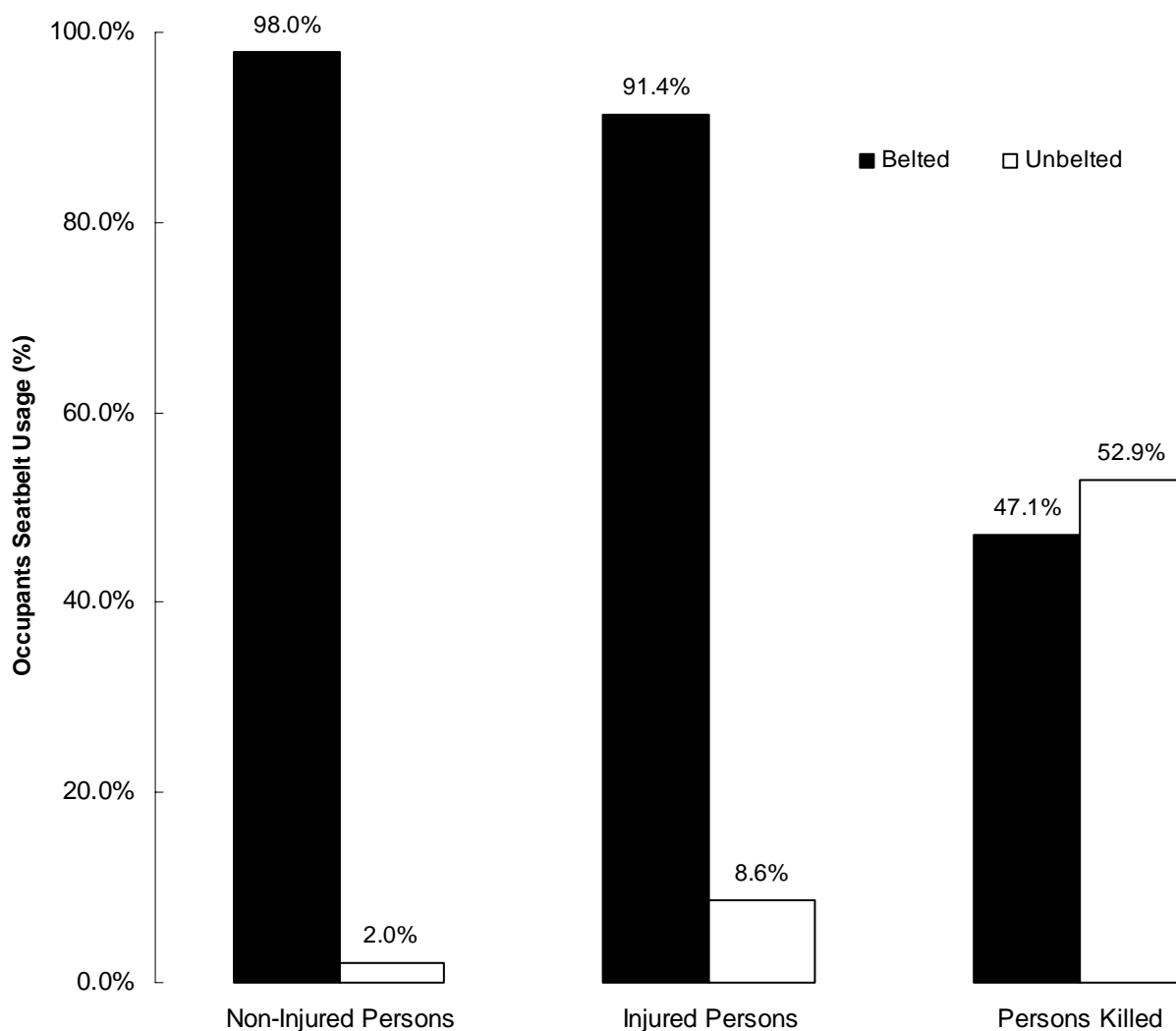
Occupant Characteristics (Including Driver)

Seatbelt Use by Injury Severity (Utah 2005)

Seatbelt Use	Persons							
	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
	#	%	#	%	#	%	#	%
Belted	95,849	98.0%	21,836	91.4%	98	47.1%	117,783	96.7%
Unbelted	1,915	2.0%	2,053	8.6%	110	52.9%	4,078	3.3%
Total	97,764	100.0%	23,889	100.0%	208	100.0%	121,861	100.0%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

Seatbelt Use by Injury Severity (Utah 2005)



- The majority of persons who survived a crash reported wearing a seatbelt; non-injured persons (98.0%), injured persons (91.4%).
- In contrast, less than half (47.1%) of the persons killed in a crash were belted.
- In fact, unbelted crash occupants were 33 times more likely to be killed than belted crash occupants.

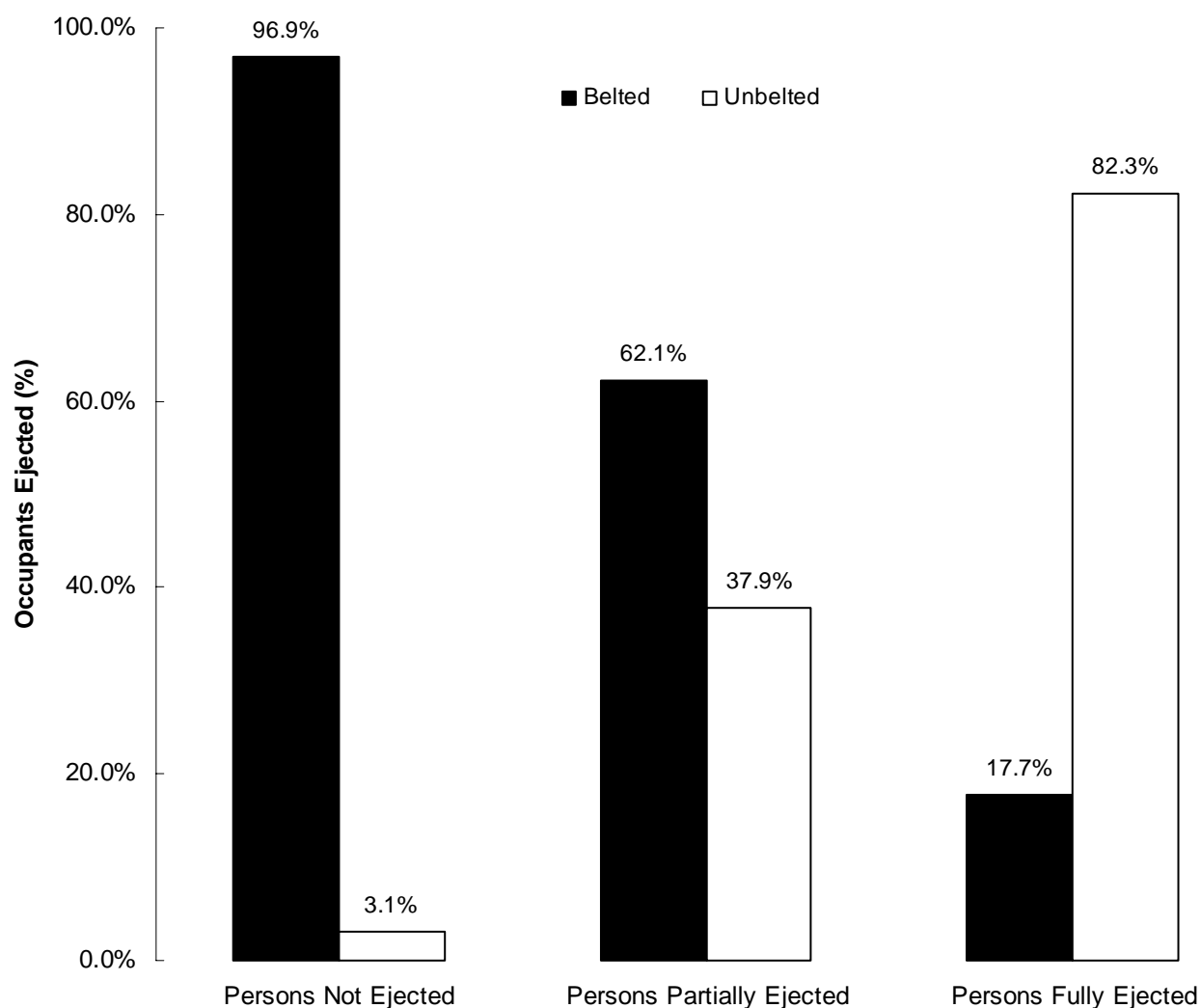
Occupant Characteristics (Including Driver)

Ejection and Seatbelt Use (Utah 2005)

Persons								
Seatbelt Use	Persons Not Ejected		Persons Partially Ejected		Persons Fully Ejected		Total Persons	
	#	%	#	%	#	%	#	%
Belted	98,381	96.9%	59	62.1%	47	17.7%	98,487	96.7%
Unbelted	3,108	3.1%	36	37.9%	218	82.3%	3,362	3.3%
Total	101,489	100.0%	95	100.0%	265	100.0%	101,849	100.0%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

Ejection and Seatbelt Use (Utah 2005)



- The above table and graph show an inverse relationship between ejection from a motor vehicle and seatbelt use.
- The majority of crash occupants fully ejected from a motor vehicle (82.3%) were reported as being unbelted, compared to only 3.1% of crash occupants not ejected from a motor vehicle.

Occupant Characteristics (Including Driver)

Seatbelt Use by Age of Crash Occupants (Utah 2005)

Persons									
Age	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
0-4	Belted	4,960	99.1%	572	97.4%	2	50.0%	5,534	98.9%
	Unbelted	45	0.9%	15	2.6%	2	50.0%	62	1.1%
5-9	Belted	3,597	98.3%	666	89.2%	3	37.5%	4,266	96.7%
	Unbelted	61	1.7%	81	10.8%	5	62.5%	147	3.3%
10-14	Belted	3,299	97.4%	637	87.5%	3	75.0%	3,939	95.6%
	Unbelted	89	2.6%	91	12.5%	1	25.0%	181	4.4%
15-19	Belted	18,269	97.4%	3,768	86.9%	12	46.2%	22,049	95.4%
	Unbelted	494	2.6%	566	13.1%	14	53.8%	1,074	4.6%
20-24	Belted	15,127	97.6%	3,361	89.5%	9	42.9%	18,497	96.0%
	Unbelted	368	2.4%	395	10.5%	12	57.1%	775	4.0%
25-29	Belted	10,357	98.0%	2,500	91.3%	11	42.3%	12,868	96.6%
	Unbelted	206	2.0%	238	8.7%	15	57.7%	459	3.4%
30-34	Belted	7,342	98.3%	1,781	91.9%	2	33.3%	9,125	96.9%
	Unbelted	127	1.7%	157	8.1%	4	66.7%	288	3.1%
35-39	Belted	6,004	98.5%	1,463	93.3%	5	55.6%	7,472	97.4%
	Unbelted	94	1.5%	105	6.7%	4	44.4%	203	2.6%
40-44	Belted	5,482	98.5%	1,392	93.9%	4	40.0%	6,878	97.4%
	Unbelted	83	1.5%	91	6.1%	6	60.0%	180	2.6%
45-49	Belted	4,990	98.3%	1,271	94.5%	5	31.3%	6,266	97.4%
	Unbelted	85	1.7%	74	5.5%	11	68.8%	170	2.6%
50-54	Belted	4,037	98.6%	1,114	95.0%	5	33.3%	5,156	97.6%
	Unbelted	59	1.4%	59	5.0%	10	66.7%	128	2.4%
55-59	Belted	3,178	98.8%	883	95.7%	3	30.0%	4,064	98.0%
	Unbelted	37	1.2%	40	4.3%	7	70.0%	84	2.0%
60-64	Belted	2,234	98.9%	611	94.9%	7	58.3%	2,852	97.9%
	Unbelted	24	1.1%	33	5.1%	5	41.7%	62	2.1%
65-69	Belted	1,564	97.9%	431	95.8%	7	70.0%	2,002	97.3%
	Unbelted	33	2.1%	19	4.2%	3	30.0%	55	2.7%
70-74	Belted	1,242	98.8%	314	95.4%	4	66.7%	1,560	98.0%
	Unbelted	15	1.2%	15	4.6%	2	33.3%	32	2.0%
75-79	Belted	990	97.8%	272	94.1%	5	71.4%	1,267	96.9%
	Unbelted	22	2.2%	17	5.9%	2	28.6%	41	3.1%
80-84	Belted	670	98.1%	180	93.8%	6	66.7%	856	96.8%
	Unbelted	13	1.9%	12	6.3%	3	33.3%	28	3.2%
85+	Belted	378	95.7%	118	92.2%	2	100.0%	498	94.9%
	Unbelted	17	4.3%	10	7.8%	0	0.0%	27	5.1%
Unknown	Belted	2,129	98.0%	502	93.5%	3	42.9%	2,634	97.0%
	Unbelted	43	2.0%	35	6.5%	4	57.1%	82	3.0%
Total	Belted	95,849	98.0%	21,836	91.4%	98	47.1%	117,783	96.7%
	Unbelted	1,915	2.0%	2,053	8.6%	110	52.9%	4,078	3.3%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- Overall, crash occupants aged 85+ years (5.1%), followed closely by occupants aged 15 to 19 years (4.6%), had the highest percentage of being unbelted.
- For injured crash occupants, persons aged 15 to 19 years were again the most likely to be unbelted (13.1%).
- For persons killed, crash occupants aged 55 to 59 years had the highest percentage of being unbelted (70.0%).

Occupant Characteristics (Including Driver)

Seatbelt Use by Gender of Crash Occupants (Utah 2005)

Persons									
Gender	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
F	Belted	43,408	98.3%	12,652	93.2%	35	47.9%	56,095	97.1%
	Unbelted	741	1.7%	926	6.8%	38	52.1%	1,705	2.9%
M	Belted	52,343	97.8%	9,165	89.1%	63	46.7%	61,571	96.3%
	Unbelted	1,172	2.2%	1,126	10.9%	72	53.3%	2,370	3.7%
Unknown	Belted	98	98.0%	19	95.0%	0	0.0%	117	97.5%
	Unbelted	2	2.0%	1	5.0%	0	0.0%	3	2.5%
Total	Belted	95,849	98.0%	21,836	91.4%	98	47.1%	117,783	96.7%
	Unbelted	1,915	2.0%	2,053	8.6%	110	52.9%	4,078	3.3%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- Overall, female (97.1%) crash occupants reported seatbelt use was slightly higher than males (96.3%).
- For injured crash occupants, reported seatbelt use was greater for females (93.2%) than for males (89.1%).
- For persons killed, female crash occupants had higher seatbelt use (47.9%) than male crash occupants (46.7%).
- In addition, the majority of crash occupants killed in crashes were unbelted, regardless of gender.

Seatbelt Use by Occupant Placement (Utah 2005)

Persons									
Occupant Placement	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
Driver	Belted	65,048	98.2%	14,889	92.6%	65	50.8%	80,002	97.1%
	Unbelted	1,172	1.8%	1,184	7.4%	63	49.2%	2,419	2.9%
Front Seat Passenger	Belted	16,135	97.4%	4,491	89.8%	24	47.1%	20,650	95.5%
	Unbelted	433	2.6%	512	10.2%	27	52.9%	972	4.5%
Back Seat Passenger	Belted	14,666	97.9%	2,456	87.3%	9	31.0%	17,131	96.1%
	Unbelted	310	2.1%	357	12.7%	20	69.0%	687	3.9%
Total	Belted	95,849	98.0%	21,836	91.4%	98	47.1%	117,783	96.7%
	Unbelted	1,915	2.0%	2,053	8.6%	110	52.9%	4,078	3.3%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- Reported seatbelt use did not vary substantially by seating location. Among all occupants, drivers reported the highest seatbelt use (97.1%) compared to persons in other seating locations.

Occupant Characteristics (Including Driver)

Air Bags and Seatbelt Use (Utah 2005)

Persons (Whose Airbag Deployed)									
Age	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
0-4	Belted	10	90.9%	7	100.0%	0	0.0%	17	94.4%
	Unbelted	1	9.1%	0	0.0%	0	0.0%	1	5.6%
5-9	Belted	12	100.0%	14	93.3%	0	0.0%	26	92.9%
	Unbelted	0	0.0%	1	6.7%	1	100.0%	2	7.1%
10-14	Belted	22	91.7%	17	85.0%	0	0.0%	39	88.6%
	Unbelted	2	8.3%	3	15.0%	0	0.0%	5	11.4%
15-19	Belted	277	97.2%	331	89.2%	1	50.0%	609	92.6%
	Unbelted	8	2.8%	40	10.8%	1	50.0%	49	7.4%
20-24	Belted	255	97.3%	317	89.3%	1	33.3%	573	92.4%
	Unbelted	7	2.7%	38	10.7%	2	66.7%	47	7.6%
25-29	Belted	149	96.1%	215	91.1%	3	60.0%	367	92.7%
	Unbelted	6	3.9%	21	8.9%	2	40.0%	29	7.3%
30-34	Belted	97	98.0%	150	91.5%	1	100.0%	248	93.9%
	Unbelted	2	2.0%	14	8.5%	0	0.0%	16	6.1%
35-39	Belted	64	98.5%	114	87.0%	0	0.0%	178	90.8%
	Unbelted	1	1.5%	17	13.0%	0	0.0%	18	9.2%
40-44	Belted	60	96.8%	118	90.8%	0	0.0%	178	92.7%
	Unbelted	2	3.2%	12	9.2%	0	0.0%	14	7.3%
45-49	Belted	65	98.5%	81	95.3%	0	0.0%	146	96.1%
	Unbelted	1	1.5%	4	4.7%	1	100.0%	6	3.9%
50-54	Belted	36	94.7%	80	96.4%	2	100.0%	118	95.9%
	Unbelted	2	5.3%	3	3.6%	0	0.0%	5	4.1%
55-59	Belted	40	100.0%	62	93.9%	0	0.0%	102	96.2%
	Unbelted	0	0.0%	4	6.1%	0	0.0%	4	3.8%
60-64	Belted	33	94.3%	51	94.4%	1	100.0%	85	94.4%
	Unbelted	2	5.7%	3	5.6%	0	0.0%	5	5.6%
65-69	Belted	21	100.0%	45	95.7%	3	100.0%	69	97.2%
	Unbelted	0	0.0%	2	4.3%	0	0.0%	2	2.8%
70-74	Belted	20	100.0%	31	96.9%	0	0.0%	51	98.1%
	Unbelted	0	0.0%	1	3.1%	0	0.0%	1	1.9%
75-79	Belted	16	100.0%	27	93.1%	0	0.0%	43	95.6%
	Unbelted	0	0.0%	2	6.9%	0	0.0%	2	4.4%
80-84	Belted	14	100.0%	19	100.0%	2	100.0%	35	100.0%
	Unbelted	0	0.0%	0	0.0%	0	0.0%	0	0.0%
85+	Belted	3	100.0%	7	100.0%	1	100.0%	11	100.0%
	Unbelted	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Unknown	Belted	20	90.9%	34	89.5%	0	0.0%	54	90.0%
	Unbelted	2	9.1%	4	10.5%	0	0.0%	6	10.0%
Total	Belted	1,214	97.1%	1,720	91.1%	15	68.2%	2,949	93.3%
	Unbelted	36	2.9%	169	8.9%	7	31.8%	212	6.7%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- The above table shows the age of crash occupants whose air bag deployed and the percentage of belt use.
- A majority of the total (93.3%) and injured occupants (91.1%) whose air bag deployed were wearing a seatbelt. However, only 68.2% of the persons killed, whose air bag deployed, were wearing a seatbelt.
- Airbags are a supplemental safety device, and were designed to be used with a seatbelt. Therefore, airbags are most effective when used in conjunction with a seatbelt.

Children and Restraint Use

Restraint Use for Children Age 0 to 8 Years by Seating Location (Utah 2005)

Children									
Seating Location	Restraint Use	Children Ages 0-1		Children Ages 2-4		Children Ages 5-8		Total Children	
		#	%	#	%	#	%	#	%
Front Middle Seat	Child Safety Seat	13	81.3%	11	28.2%	7	10.1%	31	25.0%
	Other Belted	2	12.5%	21	53.8%	52	75.4%	75	60.5%
	Unbelted	1	6.3%	7	17.9%	10	14.5%	18	14.5%
Front Right Seat	Child Safety Seat	51	76.1%	100	50.3%	25	4.9%	176	22.7%
	Other Belted	16	23.9%	93	46.7%	459	89.8%	568	73.1%
	Unbelted	0	0.0%	6	3.0%	27	5.3%	33	4.2%
Back Seat	Child Safety Seat	1,617	88.6%	2,610	75.8%	656	21.3%	4,883	58.5%
	Other Belted	201	11.0%	793	23.0%	2,340	76.0%	3,334	40.0%
	Unbelted	7	0.4%	40	1.2%	81	2.6%	128	1.5%
Total	Child Safety Seat	1,681	88.1%	2,721	73.9%	688	18.8%	5,090	55.1%
	Other Belted	219	11.5%	907	24.6%	2,851	78.0%	3,977	43.0%
	Unbelted	8	0.4%	53	1.4%	118	3.2%	179	1.9%

- The above table shows that as children's age increased, so did their likelihood to be unbelted. The unbelted percentage for children aged 0 to 1 years was 0.4%, while the unbelted percentage for children aged 5 to 8 years was 3.2%.
- The majority of children aged 0 to 1 years (88.1%) were in a child safety seat at the time of the crash, compared to 73.9% of 2 to 4 year olds, and 18.8% of 5 to 8 year olds.
- Children aged 0 to 1 years were 2.6 times more likely to be in a child safety seat, at the time of the crash, than children between the ages of 2 to 4 years.
- The decrease in child safety seat use for children aged 2 to 4 years and 5 to 8 years is concerning. The National Highway Traffic Safety Administration recommends that older children ride in belt-positioning booster seats until they are approximately 80 pounds or 4'9" tall and can use an adult-size lap and shoulder belt system. The percentages of child safety seat use in the above table indicate that children are often moved to adult-sized seatbelts prematurely.

